TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION Effective April 1, 2010
MU-13 Revised July 1, 2011

*The following product has been evaluated for compliance with the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation **April 2014**.*

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code and the Texas Engineering Practice Act.

Mulled Window Assemblies for Vinyl Windows, Non-impact Resistant and Impact Resistant, manufactured by:

Maritech Windows
1813 Kelly Blvd.
Carrollton, Texas 75006
Telephone: (469) 568-5636
www.maritechwindows.com

will be acceptable in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

PRODUCT DESCRIPTION

This evaluation report is for mulled window assemblies using vinyl windows manufactured by Maritech Windows. The mulled window assemblies evaluated in this report are for non-impact resistant and impact resistant windows.

The mulled assembly consists of individual window units that are secured to Maritech mullions described in this evaluation report. The mullions can be installed vertically (for side by side units), horizontally (for stacked units) or both vertically and horizontally for mulled units with transoms. The mullion is secured directly to the rough opening of the window.

The frames of the individual window units are secured to the extruded aluminum mullions using minimum No. 10 x $\frac{3}{4}$" screws. Minimum 1" x $\frac{3}{32}$" steel straps are used to secure the aluminum mullions to the wall framing. Four (4) No. 10 x 2$\frac{1}{2}$" screws are used to secure the vertical mullion to the horizontal mullion.

This evaluation report contains mulled window assemblies using individual vinyl window products manufactured by Maritech Windows that are currently listed in Texas Department of Insurance (TDI) product evaluation reports.

Mullion Components:

Mullion: Aluminum mullion. Manufactured from 6063-T5 aluminum. The outside dimensions are 1.00" x 3.375". The minimum nominal wall thickness is 0.125".

Mullion Components (Continued):

Mullion: Aluminum mullion. Manufactured from 6063-T5 aluminum. The outside dimensions are 1.00" x 3.000". The minimum nominal wall thickness is 0.125".

Regular Strap: Steel strap. Manufactured from galvanized steel. The dimensions are 1.00" x 5.375" x 0.093".

Modified Strap: Steel strap. Manufactured from galvanized steel. The dimensions are 1.00" x 5.375" x 0.093". Fabricated with two (2) 90 degree tabs that are 2.461" in length.

LIMITATIONS

Allowable Configurations: The following mulled window assembly configurations are permitted:

Configuration 1: Twin single hung windows. There is a vertical mullion located between the two single hung windows. The maximum height of the mulled assembly is 72". The maximum width of the mulled assembly is 88". The required mullion is 1.00" x 3.375". The modified steel strap with the two (2) 90 degree tabs is required at each end of the vertical mullion. The design pressure rating for this mulled assembly is 50 psf.

Configuration 2: Fixed window over a single hung window. There is a horizontal mullion located between the fixed window and the single hung window. The maximum height of the single hung window is 72". The maximum height of the fixed window is 22". The maximum width of the mulled assembly is 44". The required mullion is 1.00" x 3.00". The regular steel strap is required at each end of the horizontal mullion. The design pressure rating for this mulled assembly is 50 psf.

Configuration 3: Fixed window over twin single hung windows. There is a horizontal mullion located between the fixed windows and the twin single hung windows. There is a vertical mullion located between the single hung windows. The maximum height of the single hung windows is 72". The maximum height of the fixed window is 35". The maximum width of each single hung window is 36". The maximum width of the mulled assembly is 72". The required vertical and horizontal mullion is 1.00" x 3.375". The modified steel strap with the two (2) 90 degree tabs is required at each end of each mullion. The design pressure rating for this mulled assembly is 50 psf.

Maximum Sizes: The height and width of each individual window in the mulled assembly shall not exceed the maximum allowable height and width specified on the certification program labels for the individual windows. For the mulled assembly, the maximum height and width shall not exceed the dimensions specified in the Allowable Configurations noted in the Limitations section of this evaluation report.

Design Pressure Rating: The design pressure rating for the mulled window assembly is dependant on the mulled assembly rating and the design pressure rating for the individual windows in the mulled assembly.

The following procedure should be used to determine the design pressure rating for the mulled window assembly:

1. Review the design pressure rating on the certification program label for each individual window of the mulled assembly.

2. If the design pressure rating for each individual window of the mulled assembly is greater than the mulled assembly design pressure rating specified in the Allowable Configurations noted in the Limitations section of this evaluation report, then the design pressure rating of the mulled assembly is the design pressure specified in the Allowable Configurations noted in the Limitations section of this evaluation report.

3. If the design pressure rating for any of the individual windows is less than the mulled assembly design pressure rating specified in the Allowable Configurations noted in the Limitations section of this evaluation report, then the design pressure rating of the mulled assembly shall be the design pressure rating of the lowest rated individual window in the mulled assembly.

Impact Resistance: The mullions can be used with either non-impact resistant or impact resistant windows. If the mullions are used with non-impact resistant windows, then the mulled window assemblies will need to be protected with an impact protective system when installed in areas where windborne debris protection is required. If the mullions are used with impact resistant windows, then the mulled window assemblies will not need to be protected with an impact protective system. Refer to the TDI evaluation reports for each of the windows in the mulled assembly to determine the locations where the mulled window assemblies can be used (ex. Inland I zone only or Inland I and Seaward zones).

Product Identification: A certification program label will be affixed to each individual window of the mulled assembly. Refer to the TDI evaluation report for each individual window in the mulled assembly for the information that must be specified on the certification program label. **Note:** The certification program label is for the performance characteristics of the individual windows in the mulled assembly. The design pressure rating for the mulled assembly is as specified in the Limitations Section of this evaluation report.

INSTALLATION INSTRUCTIONS

General: The mulled window assembly shall be installed in accordance with the manufacturer's installation instructions, the approved drawings, and this evaluation report. Detailed drawings and installation instructions are available from the manufacturer.

Attachment of Window Frames to Mullions: The window frames shall be anchored to the aluminum mullions with minimum No. 10 x $\frac{3}{4}$" screws. The fasteners shall penetrate through the window frame and into the aluminum mullion. The fasteners shall be long enough such that a minimum of three (3) threads protrude through the wall of the aluminum mullion. The fasteners shall be spaced a maximum of 12 inches from each corner and a maximum of 12 inches on center.

Attachment of Vertical Mullions to Horizontal Mullions: Vertical mullions shall be secured to horizontal mullions using four (4) No. 10 x 2 $\frac{1}{2}$" screws. A Southern Yellow Pine wood block shall be inserted into the end of the vertical mullion. The wood block shall be deep enough to allow for full penetration of the screws. Two (2) screws shall penetrate through the horizontal mullion and into the wood block.

Attachment of Mulled Assembly to Wall Framing: The wall framing shall be minimum Southern Yellow Pine dimension lumber. The mulled window assembly shall be secured to the wall framing using the type, size, quantity, and spacing of fasteners as specified in the TDI evaluation reports for the individual windows. As a point of reference for locating fasteners at window corners. where a window unit joins with a mullion shall be considered a corner location for a window.

Attachment of Mullions to Wall Framing: The mullions shall be secured to the wood wall framing using the steel straps. The wall framing shall be minimum Southern Yellow Pine dimension lumber. The steel straps shall be installed as follows:

Configuration 1: The modified steel strap is secured to each end of the vertical mullion (1" x 3.375" mullion) with two (2) No. 10 x ¾" screws that thread the screws bosses of the mullion. The 90 degree tabs on the strap insert into the hollow of the mullion. The steel strap is secured to the wood framing members at the head and the sill with four (4) No. 10 x 1 ½" screws.

Configuration 2: The regular steel strap is secured to each end of the horizontal mullion (1" x 3.00" mullion) with two (2) No. 10 x ¾" screws that thread the screws bosses of the mullion. The steel strap is secured to the wood framing members at each side jamb with four (4) No. 10 x 1 ½" screws.

Configuration 3: The modified steel strap is secured to each end of the vertical mullion (1" x 3.375" mullion) and horizontal mullion (1" x 3.375" mullion) with two (2) No. 10 x ¾" screws that thread the screws bosses of the mullion. The 90 degree tabs on the strap insert into the hollow of the vertical and horizontal mullions. The steel strap is secured to the wood framing members at the head, the sill, and the side jambs with four (4) No. 10 x 1 ½" screws.

Note: The manufacturer's installation instructions shall be available on the job site during installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC), the International Building Code (IBC), and the Texas Revisions.